TEXAS A&M UNIVERSITY-KINGSVILLE

CITRUS CENTER

(956) 968-2132

WESLACO, TEXAS 78596

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NEWSLETTER

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ABOUND, HEADLINE, AND GEM - NEW FUNGICIDES FOR GREASY SPOT CONTROL

Three new chemicals are now available for the control of citrus greasy spot disease caused by fungus *Mycosphaerella citri*. They are: Abound, Gem, and Headline. These new chemicals join other products such as Enable, copper, and oil that are already used for greasy spot control. The new chemicals belong to a class of fungicides called Strobilurins which are known to be very valuable for controlling several diseases in numerous plants. Strobulins attack the 'powerhouses' (called mitochondria) in fungal cells. In citrus, apart from greasy spot, these compounds are effective also against melanose, scab etc.

Azoxystrobin, formulated as Abound (also, as Quadris for other crops) was the first EPA registered fungicide in this class. Trifloxystrobin, formulated as Gem was the second strobulin and Pyraclostrobin, formulated as Headline is the third product registered. These products are considered 'reduced risk' by EPA. They provide significant control of numerous plant diseases caused by all three major groups (Oomycota, Ascomycota, Basidiomycota) of fungi.

Strobilurins have an outstanding ability to inhibit spore germination. Therefore, these products are very effective in controlling disease development. Moreover, they are known to have translaminar activity (= they can move through treated leaves thereby providing control on both leaf surfaces). They also remain on the leaf surface for several days after application.

One problem with strobilurin fungicides is the chances of resistance buildup – it is considered high compared to some other fungicides. However, this problem can be managed by strategies to avoid resistance buildup. Do not use Strobilurin fungicides (Abound, Gem, and Headline) for all your greasy spot sprays, but use them as part of an integrated program with other fungicides and cultural management strategies. Some fungicides, such as Enable control greasy spot disease through inhibition of steroid synthesis in fungal cells.

Always read and follow label instructions before using these or any other chemicals.

Mani Skaria

DWAYNE BAIR RETIRES FROM ADVISORY COMMITTEE

Dwayne Bair, General Manager of the Edinburg Citrus Association until last year, announced his retirement from the Citrus Center Advisory Committee at the beginning of the year, and at a recent meeting, the committee expressed its gratitude for his 15 years service, including two terms as its chairman. The Dean of the College of Agriculture & Human Sciences, Dr Ron Rosati is seen in the photo presenting a plaque of recognition to Dwayne. The Deputy Center Director expressed particular thanks for the guidance he received from Dwayne who was chairman at the time of his appointment.

John da Graca

GRADUATE STUDENT ASSESSES IMPACT OF THE PHYTOCHEMICALS IN FRUITS AND VEGETABLES COURSE ON SOCIETY

A unique university course developed by Bhimu Patil was offered through the Trans-Texas Video Network to students at several colleges and universities across Texas to highlight the potential health benefits of fruits and vegetables. The course was taught by university researchers from all over the country. Students had the advantage of communicating face-to-face using this technology. As far as we know, the design and course content is not duplicated in any other university in the world, although the topics have gotten widespread media attention.

In order to assess its impact on both students and the general public, a survey was conducted by Mr. Omar Montemeyor a masters student as part his degree. He is a county agent in Starr County who took this class in 2001. Omar used some of the lecture material to write news articles to inform his clients about the importance of fruits and vegetables.

The nutritional benefits of consuming fruits and vegetables has been the focus of scientific research all over the world. Naturally occurring compounds in fruits and vegetables, known as phytochemicals, are perceived to have many health benefits. These were the major focus of the course being offered to the students in the spring of 1999 and 2001. Omar's research project focused on the students perceptions after completing the course. The data was collected from 20 students who completed an on-line survey, the results of which provided baseline demographic data, measured their knowledge about fruits and vegetables, and determined dietary changes the students have made since completing the course.

Salient features of the findings are:

1. Older respondents had an improved attitude towards the consumption of fruits and vegetables after completing the course. They also thought their families' diet changed and they were more likely to discuss this with their health professional.

2. Graduate students indicated that they have decreased their consumption of animal fat since completing the course. One graduate student commented, "This course has changed myself and my family's eating habits for the better.

3. 82.3% of the students strongly agreed or agreed that they had changed their dietary habit and reduced the amount of animal fat consumption.

4. A large percentage (78.9%) strongly agreed or agreed to have altered the family's eating habits.

5. A large percentage (70.6%) of the participants strongly agreed or agreed to have discussed the benefits of phytochemicals with their health professional.

6. Although the percentage of male students (55.6%) was larger, female students' attitude toward the consumption of fruits and vegetables were believed to be improved.

Omar will graduate in Kingsville this August.

Bhimu Patil and Omar Montemeyor

FIRST CITRUS PHD AT THE CENTER COMPLETED

This month Caroline Herron receives her PhD from Texas A & M University in College Station, thus becoming the first person to complete a PhD degree at the Weslaco Center.

Caroline first came to the Citrus Center in 1996 as a masters student from Bristol University, England, to do her research on citrus tatter leaf virus under Dr Mani Skaria. She later returned to register for a PhD, and in 1999 after completing her course work in College Station, she began an extensive research project in Weslaco on characterizing Texas isolates of Citrus tristeza virus. She did most of her lab work with Dr Erik Mirkov, but also used lab and greenhouse facilities at the Citrus Center. Her research was funded by grants from the USDA CSREES special tristeza research fund, proposals which she played a major part in writing with her committee co-chair, Dr John da Graca. She used biological, serological and molecular techniques to characterize the virus isolates, and showed that several contain severe decline and stem pitting strains. She also sequenced one of these strains, and also monitored a number of transgenic Rio Red plants for virus resistance. In addition, she conducted aphid transmission tests in collaboration with scientists in Florida.

In September she will begin working at the International Institute of Tropical Agriculture in Ibadan, Nigeria, where two other former members of the Mirkov lab currently work, Ivan Ingelbrecht and Francis Moonan.

John da Graca

NEW OPPORTUNITY FOR HANDS-ON RESEARCH FOR THE VALLEY'S STUDENTS

For the last three years Dr. Louzada has been funded by the USDA- Hispanic Serving Institution Grant Program to provide hands-on research for undergraduate students of the Rio Grande Valley. In the last two funded projects he received more than $500,000 to train the students in research and to channel them to graduate studies. More than 15 undergraduate students from the University of Texas at Brownsville went through the program and were very successful even though they didn't have any previous experience. Three of the original 15 are currently graduate students in Louzada's laboratory and several others are joining graduate studies in other places. Recently, Louzada, together with his new collaborator Dr. Michael Persans, of the University of Texas PanAmerican (UTPA) was again funded for almost $300,000 by the same program, to provide research training for students at (UTPA), where 26 students will be able to get research skills that can better prepare them for graduate studies or for higher skilled jobs. Louzada and Persans are committed to find new funds to better prepare the Valley's students for science careers.

Eliezer Louzada

DR CHARLES SCIFRES

The Citrus Center joins all its partners in the Agriculture Program in expressing its condolences to the Scifres family on the sudden death of Dr Charles Scifres, Deputy Director of the Texas Agriculture Experiment Station (TAES), on July 28. In his short time in College Station he provided strong leadership during some difficult financial times, but was always looking to the future. He recently visited the Center in Weslaco, and held discussions with Dr Rosati and ourselves on the new South Texas Division of TAES which links the Corpus Christi, Uvalde and Weslaco Centers with the College Of Agriculture & Human Sciences in Kingsville. He will be greatly missed.

Jose Amador and John da Graca

CRAIG KAHLKE MOVES TO CORNELL

The Citrus Center will have to adjust to life without Craig Kahlke, the Budwood Program Coordinator, from mid-August. Craig has resigned to take up a position at Cornell University, in Ithaca,NY in their vegetable herbicide testing program. Both he and his wife Kristin originally come from New York, and he assures us that his main reason for this move was the opportunity be nearer home.

Craig joined the Center 8 years ago to manage the industry-funded budwood program. When he came, the program was in its infancy and consisted mainly of a collection of shoot tip grafted plants in a greenhouse. Today, thousands of virus-free buds of many varieties are being cut annually for the nurserymen of Texas from the foundation and increase trees. The program has got this far primarily because of Craig's energy and dedication. He has not only worked hard at the Center, but he has got to know nuserymen and growers to promote the program, including the growing homeowner market, and also worked closely with the Texas Department of Agriculture on the rules and regulations.

We take this opportunity of expressing our sincere thanks to Craig for all he has done. The program will continue, and its future success will be due to the strong foundations of which Craig has been a vital part. We wish him and his family a safe move and a successful new career. Craig will still be linked to the Center for a while because he is registered for a masters degree through Kingsville which he plans to finish next year.

John da Graca

VISITORS FROM MEXICO

Recently a group of citrus growers from Cd.Victoria Tamaulipas, (Juan Jose Rodriguez, Jorge Luis Morales, J.Armando Cervantes, and J.Alberto Villareal) visited the center, and spent the day discussing pest and disease control with Victor French, Mani Skaria and Elias Hernandez. Their visit came about through Dr Jesus Loera, entomologist from INIFAP in Rio Bravo, who attended a recent fruit fly meeting at the Center, and asked if he could bring a group of growers to visit.

ORIGIN OF THE WORD 'ORANGE'

The center of origin of citrus tree is the India-China area. The origin of the English word 'orange' is from **naranj** in Sanskrit, spoken in ancient India. The trade relations between India and the Arabs introduced the naranj fruit into Arabic as **naranjh**. The Arabs introduced naranjh into Spain and it became **naranja** in Spanish. In English, a borrowed word ending in 'j' became 'ge' creating **a narange**. Over time, it became **arangus** - Latin and finally **orange**.

Mani Skaria

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